

The Nexus of International Organized Crime and Terrorism The Case of Dirty Bombs

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I appreciate the opportunity to share with the subcommittee my views on the threat posed by the growing capability and interest of terrorist groups in embedding highly radioactive materials in explosive devices. I present this testimony in my personal capacity as a long-time specialist in international affairs with a technical background in nuclear engineering who has attempted to find practical ways to combat international terrorism for more than a decade. Thus, while I am a staff member of the National Academies, I am not speaking on behalf of the National Academies or any other organization. Also, I have not had access to classified information on the topic being discussed today. Therefore, my views undoubtedly reflect only a portion of the total story concerning the coming age of the use by terrorists of dirty bombs.

Nevertheless, I believe that the information and impressions I have garnered from open sources and from personal contacts with technical specialists and policy analysts interested in radiological terrorism will be helpful to you in making judgments as to the seriousness of the threat and appropriate responses by the United States—at the international, national, and local levels. I assume that the primary interest of this subcommittee is directed to the role of the Department of Homeland Security (DHS) in preventing a successful attack on our population and our assets within the 50 states. But as you well know, effective preventive measures must involve a number of government departments and agencies, and also international organizations. Therefore, some of my remarks are intended for a broader audience than only DHS.

In preparation for this testimony, I reviewed my assessment of the linkages between organized crime and terrorist organizations that was published in 1998. At that time, there were clear overlaps between terrorist networks and organized crime networks—in Latin America, in Europe, and in Asia. However, many academics and government officials were attempting to draw sharp distinctions between terrorist groups that seek political changes and organized crime and drug cartels that are enterprises driven by a thirst for the accumulation of wealth. They argued that terrorists routinely use violence to achieve political goals whereas criminal organizations employ violence more selectively and only when bribery and intimidation fail. (1)

But the reality then and now has not been so jigsaw-puzzle neat. Terrorist and criminal organizations rely on the same global transportation, communication, and financial infrastructures for illegal ploys. They take advantage of the same breakdowns in authority and enforcement in states under siege. They both seek increasing shares of the fortunes generated from narco-trafficking and other crimes. Whether mercenaries are hired to do the bidding of drug lords or of terrorist kingpins, the hit teams share a single motive in employing violence—earning their financial keep. And when terrorist groups use their own suicide teams, they too need some level of financial support to prepare for and to launch an activity—for example, money that is

stolen through well known criminal devices such as credit card fraud. Later in the testimony I will show how these observations of the mid-1990s are playing out with regard to current interest in the use of dirty bombs. (2)

Also in the early 1990s, new terrorist scenarios could be clearly seen on the horizon. In 1993, I discovered a new advertisement of the Hong Kong Sunshine Industrial Company, a shadowy hub of organized crime trading in conventional arms. A freshly printed flyer of the company that was being distributed through underground channels was given to me by a foreign government official who apparently was well connected with purveyors of illicit activities. It stated that the company was offering employment opportunities for specialists with skills in rocketry and nuclear weapons. (3) At about the same time, the Aum Shinrikyu sect in Japan became interested in weapons of mass destruction as they explored the availability of uranium, experimented with biological agents, and killed and injured hundreds of innocent passengers through release of sarin gas in the Tokyo subway system.

I needed no further evidence then, nor do I now, that organized crime has entered a new phase of complicity with high-tech terrorist organizations. Thus, it should not be surprising that my 1998 book warned of a wave of anthrax letters and postulated the detonation of a dirty bomb at Europol headquarters in The Hague as plausible events. At the same time, I have always believed that for the near term, simpler approaches will be used by most terrorists. Thus, the book also suggested that greater attention be given to the possibility of suicide skyjackings and of repetitive subway bombings. (4)

Now nearly a decade has passed. What has changed in the outlook that terrorists and organized crime will collaborate in spawning high-tech attacks on western countries?

There have been many changes. The following have not been for the better:

- The memberships of terrorist organizations have grown: more recruits and more technically skilled members.
- Terrorist organizations have been emboldened by successful operations of like-minded brethren in the United States, Europe, Russia, and elsewhere.
- The number and distribution of terrorist cells, loosely linked through the Internet and couriers, have increased significantly.
- Money laundering networks remain a problem as financial fronts have long experience in reappearing in different configurations after they are penetrated.
- Drug trafficking routes continue to expand, with clear linkages to al Qaeda and other terrorist organizations in the Middle East and Asia

Positive developments during the past decade have included the following:

- The United States and other nations have expanded counter-terrorism programs to protect populations and assets, improve intelligence, and pursue known terrorists.
- Weak governments are increasingly cooperating with responsible western governments in rooting out safe havens for terrorist groups.

- International organizations are promulgating standards for protecting dangerous materials and preventing thefts of these materials (e.g., International Atomic Energy Agency's *Code of Conduct* for radiological material) and are expanding information-sharing with law enforcement organizations (e.g., Interpol data base).

Other pluses and minuses can be added to this list. But the bottom line seems clear. Terrorist groups are growing in strength while the vulnerabilities of their targets are only slowly being reduced.

I have selected Dirty Bombs as the theme for this presentation because the probability of the detonation of a dirty bomb that disperses radioactive material at home or abroad is high. There are other means for dispersing radioactive contaminants into the air or water, but the dirty bomb is probably the easiest radiological dispersion device for terrorists to master and use. I share the view of many specialists that radiological terrorism is becoming a near and present danger, as indicated by the results of a poll of 85 experts recently conducted by Senator Richard Lugar concerning the threat of weapons of mass destruction. The results of the poll included the following:

Respondents judged the probability of a major radiological attack over the next five years to be greater than the probability of a biological, chemical, or nuclear attack, with 68 of 83 respondents saying there was a 10 percent chance of an attack that affects a major portion of a city. When the timeline is extended to ten years, 40 of 82 respondents judged the risk of such an attack as 50 percent or greater. (5)

The following assessment of the International Atomic Energy Agency (IAEA) echoes these results:

The radioactive materials needed to build a "dirty bomb" can be found in almost any country in the world, and more than 100 countries may have inadequate control and monitoring programs necessary to prevent or even detect the theft of these materials...What is needed is cradle-to-grave control of powerful radioactive sources to protect them against terrorists or theft. (6)

A dirty bomb can take many forms and can range in size from a suitcase to a truck. The approach that would most likely be followed by a terrorist organization at present is to embed one or more ionizing radiation sources (IRSs) in an explosive device that depends on TNT, dynamite, C-4, or other available explosive material. (7) Upon detonation, the radioactive material would contaminate areas in the vicinity of the explosion. The death toll from the radiation would probably not be high, with the number of victims killed by the radiation probably less than the number killed by the blast of the explosion. The size of the contaminated area would of course depend on the composition and the dispersal characteristics of the radioactive material (e.g., ranging from powder to metallic pieces), on the dispersion effectiveness of the explosive device, and on the local weather conditions. Some scenarios project contamination spreading over many blocks of a densely populated city.

While the death toll might not be high, the disruptive effect of an explosion could be large. The levels of danger associated with nuclear contamination are poorly understood by most populations which only know that radiation exposure is not good and should be avoided. Thus, a rush to evacuate once word spread that radioactive contamination had been rained on businesses and residences might be hard to control. A multi-block area of a city might well be closed following a detonation-- disrupting transportation, businesses, government facilities, and populated neighborhoods. Such closures might last days, weeks, or months depending on the nature and extent of the contamination and the success of clean-up efforts. All the while, displaced people might be hesitant to return to the area, worried about long-term effects of exposure to any level of contamination and concerned about repetition of such an act. A variety of books and articles have been written in recent years about the effects of a dirty bomb detonation under various scenarios. (8)

For terrorist groups with some modest level of technical skills, the key to constructing a dirty bomb is availability of appropriate radioactive material. As noted in the IAEA statement, such material is omnipresent. Much is in the form of IRSs used in medicine, food processing, well logging, electricity generation, industrial gauging, and scientific research, for example. There are literally millions of IRSs scattered around the world, and tens of thousands of them have sufficiently high activity to make them worrisome components of dirty bombs. (9)

Against this general background, I cite the following seven incidents since early 2004 that clearly indicate the interest of both terrorist organizations and organized crime in dirty bombs.

- Scotland Yard charged eight terror suspects in London with (a) plotting to commit murder using Americium-241 from smoke detectors together with explosives in devices based on schemes in the *Terrorist's Handbook*, and (b) having surveillance plans for the New York Stock Exchange, the International Monetary Fund, and the Prudential Building in New Jersey. The leader was identified as bin Laden's "U.K. general." (10)
- In a police scam, Scotland Yard arrested four terror suspects attempting to purchase "red mercury" smuggled to London from Russia for sale to a Saudi buyer who was purported to be sympathetic to "Muslim causes." (11)
- Russian and Ukrainian security forces arrested an international criminal group for possession of Osmium-187 near Kursk. (12)
- The Ukrainian security service confiscated three containers of Cesium-137 and arrested four members of an organized crime group in the Crimea. (13)
- In a related incident, the Ukrainian security service arrested members of an organized crime group who were in possession of six containers of Cesium-137. (14)
- The Ukrainian security service arrested members of an organized crime group that is spread throughout the country and seized two containers of Cesium-137 in Armiansk, Ukraine. (15)
- Ukrainian police arrested 3-4 members of a criminal gang who had Strontium-90 together with a large cache of arms near Odessa. (16)

In short, we are no longer talking only about *hypothetical* threats of terrorists and organized crime groups trafficking in dangerous materials that could be used in potent dirty bombs.

Some dirty bomb experts believe that the most likely scenario for detonation of a dirty bomb in the United States is the theft of one or more IRSs in use or in storage in the United States and then detonation of a bomb in a nearby city. There would be no need to circumvent customs procedures that are increasingly sensitive to detection of radioactive material. Last week *Business Week* set forth a scenario of a dirty bomb being detonated at the New York Stock Exchange using radioactive material from an IRS that a sleeper cell had stolen from a hospital in New Jersey. Surely this type of scenario should be of concern. (17)

But illegal importation of IRSs into the United States may become a better option for nuclear terrorists in several years. Soon the Nuclear Regulatory Commission (NRC) will have put in place stronger procedures for ensuring proper handling and security of IRSs, and the Department of Energy (DOE) will have completed most of its intensified effort to collect abandoned IRSs in the United States.

Against this background, the following considerations heighten concern over thefts of IRSs abroad:

- Once a stolen IRS enters the international black market in Europe or elsewhere there is no way to predict where it will end up. Indeed, international terrorist groups might attempt to bring it into the United States.
- The successful detonation of a dirty bomb anywhere in the world could encourage copy cat scenarios in the United States and elsewhere as has been the case with other tactics adopted by terrorist organizations.
- Stolen IRSs that make their way to remote terrorist hideaways might be used for training purposes in preparation for attempting theft and detonation of an IRS in the United States or for sending suicide teams trained in dirty bomb methods to the United States.

Looking beyond these concerns that relate directly to the primary responsibilities of DHS, thefts of IRSs abroad can have additional adverse effects on U.S. interests, namely:

- Dirty bombs could be used against U.S. government or private sector assets abroad.
- A dirty bomb incident anywhere could dampen public support for using nuclear technology for civilian purposes at a time when an expansion of nuclear power is being evaluated in the United States and elsewhere in the light of recurring energy problems.
- The United States imports a variety of IRSs for scientific, industrial, and agricultural purposes; and malevolent use of an IRS abroad could adversely affect international trade involving IRSs.

A primary concern of this hearing is what can be done to prevent international criminal networks, terrorist networks, or hybrid networks from becoming a significant smuggling channel of ingredients for dirty bombs. The London cases cited above indicate that international trafficking in IRSs to be used in dirty bombs is coming of age. The Ukrainian cases suggest that

while nuclear crime involving networks of small cells of criminals may be increasing, there is no direct evidence that construction of dirty bombs was the motivating factor in these cases.

It is useful to look at other networks as well. Reflecting on the A.Q. Khan money-making network that engaged in trade of centrifuges for enriching uranium with countries which were on the black list of western countries, clearly Khan's official position in Pakistan and personal stature were keys to the success of this network. Apparently governments were his customers, and it seems likely that they were comfortable dealing with someone who had government credentials, regardless of whether Khan's authority was or was not misrepresented; and such respect for government operatives is an important lesson learned. (18) Turning to the relevance of al Qaeda's financial network, the characteristic that stands out is the source of the money—the Saudi Government and Saudi charities. The network had many twists and turns; and if others have the starter cash, they presumably could copy many of the approaches. (19)

Finally, the drug networks should probably be of greatest concern in considering the future of international smuggling of material for dirty bombs. They have long been channels for trade in conventional weapons, and they probably could handle IRSs without too much difficulty. At the same time, as previously noted, terrorist groups need financial sustenance for a variety of activities.

There are already clear linkages of terrorist groups to the opium/heroin trade from Afghanistan; and the amount of money involved is so large that astute dirty bomb terrorists may well seek direct or indirect ties with the many way stations along these routes. In 2003, U.S. Central Command reported its first seizure of a small Al Qaeda boat smuggling hashish worth about \$10 million. Since that time many reports have emanated from Afghanistan and elsewhere of al Qaeda involvement in drug trafficking. Also, related terrorist organizations have reportedly been involved in drug smuggling in the Philippines. Finally, one report indicates the possibility that drug money is being used for obtaining radioactive material for dirty bombs. (20)

Against this background, what steps should now be taken to reduce the likelihood that dirty bombs will be detonated in the United States, in the near term or in the more distant future of say five years?

First, the U.S. government is already taking many steps to prevent a dirty bomb detonation in the United States. As noted, the NRC and DOE are tightening security on IRSs and radioactive waste. At points of entry into the United States, radiation monitors are being deployed in increasing numbers and with increasing sensitivities. Sealed shipping containers are increasingly being certified as free of tampering en route to the United States. New York and other cities are arming enforcement agencies with pagers and more elaborate detection capabilities. And you know better than do I the many other steps to develop more robust security barriers throughout the country.

Internationally, the United States has been a leader in galvanizing a multinational approach to preventing and intercepting radiation smuggling. The IAEA has adopted a variety of guidelines

concerning the classification and handling of IRSs, methods for protecting and accounting for them, and recommended procedures for import and export of IRSs. Also, the Agency provides assistance to many countries that are endeavoring to strengthen their nuclear security systems. The United States initiated the Proliferation Security Initiative to facilitate search and seizure of ships suspected of having illicit weapons-related cargoes, and particularly nuclear cargo. DOE has mounted programs in more than 40 countries to upgrade the security at particularly vulnerable sites where radioactive material is used or stored. Also, DOE has improved radiation detection capabilities at international borders and at key ports throughout the world.

Let me now offer several principles for advancing these and other efforts that are important for protecting the American people from a dirty bomb attack.

- Homeland security does not begin at the outer boundaries of the 50 states but extends to the roots and routes of threats that are targeted on the 50 states.
- While cradle-to-grave stewardship of IRSs is the goal, many years will be necessary to reduce the threat of dirty bombs to a tolerable level; and efforts that are launched to contribute to achieving this goal should be put in place for at least a decade.
- Money is required for international networks of criminals or terrorists or for hybrid networks to be effective, and the biggest cache of accessible funds is in the hands of the narco-traffickers. Crimps in their drug supply lines and their financial networks will have indirect, but important, effects for reducing many types of high-tech smuggling.
- Governments have always had a clear responsibility to ensure proper handling of all types of nuclear materials, and the United States cannot give too much emphasis to helping other governments strengthen their regulatory infrastructures for ensuring adequate stewardship over dangerous nuclear material.

In short, in order to ensure the safety of the United States, we need to follow the dangerous material trail, the brain trail, and the financial trail as best we can. And only by enlisting the efforts of countries throughout the world, will we be successful in doing just that.

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